

# Source Water Assessment Report



**Public Water Supply: LEAVENWORTH WATER DEPARTMENT**

**Assessment Areas Include:  
340, 342**



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Reports were generated with the Automated Source Water Assessment Tool (ASWAT). Assessments were completed online using ASWAT by hundreds of state employees, public water supply staff, and technical assistant providers throughout the State of Kansas.

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# Report Description

## Detailed Explanation of Entire Report:

The 1996 amendments to the Safe Drinking Water Act require each state to develop a Source Water Assessment Program (SWAP) and a Source Water Assessment (SWA) for each Public Water Supply (PWS) that treats and distributes raw source water. In Kansas there are 761 public water supplies that require SWAs. A SWA includes a delineation of the source water assessment area, an inventory of potential contaminant sources, and a susceptibility analysis.

A PWS can consist of one or more individual assessment areas that require different assessments. In general, an assessment area is delineated at a two-mile fixed radius for a groundwater well. A surface water intake assessment area is the upstream-drainage area (watershed), inside the state border. Additionally, an assessment area can consist of an individual well, group of wells, an individual surface water intake, or multiple surface water intakes.

After each assessment is completed a report is automatically generated using an Internet-based application called the Automated Source Water Assessment Tool (ASWAT). The individual assessment reports combine to form the entire SWA report for a PWS.

A map of each Assessment Area was also generated with ASWAT. However, for security reasons the maps are not included in this report. To obtain a copy of the map(s), please contact your local PWS.

All PWS reports will be available for viewing and downloading on KDHE's Watershed Management Section website(<http://www.kdhe.state.ks.us/nps>) in 2004.

## LEAVENWORTH WATER DEPARTMENT Summary:

AA	Type	Diversion Id
340	Ground water multiple wells	007, 004, 010, 03A, 005, 003, 008, 012, 006
342	Surface water single intake	999

Public Water Supply: **LEAVENWORTH WATER DEPARTMENT**  
Assessment Area: **340**  
Diversion Id's: **007, 004, 010, 03A, 005, 003, 008, 012, 006**  
Status: **Accepted**  
Submit Date: **2003-02-26 15:25:45**

## **Executive Summary:**

The Executive Summary gives the assessment area's Susceptibility Likelihood Score (SLS) for each contaminant of concern category.

SLS indicates which contaminant category is most likely to impact a given public water supply. Contaminants of concern for groundwater include microbiological, inorganic compounds, nitrates, synthetic organic compounds, pesticides, and volatile organic compounds. Contaminants of concern for surface water include microbiological, inorganic compounds, eutrophication – phosphorus, sedimentation, synthetic organic compounds, pesticides, and volatile organic compounds.

To determine the assessment area's susceptibility to contamination, a qualitative (semi-quantitative) screening level susceptibility analysis was designed that utilizes general assumptions and best professional judgement. It is a systematic procedure comprised of simple yes/no questions. Each question in the susceptibility analysis focuses on the presence or absence of potential pollution sources in the assessment area. SLS is most useful in helping the Public Water Supply (PWS) focus on water quality protection actions towards a contaminant category of concern. For example, if the SLS for microbiological contamination is high, relative to volatile organic compounds (VOC), water supply protection planners would conclude that the attention should be directed towards microbiological contaminant sources rather than VOC sources.

# Executive Summary

Public Water Supply: **LEAVENWORTH WATER DEPARTMENT**

Assessment Area: **340**

## Susceptibility Likelihood Scores for Assessment Area

Contaminant Category	A	B	B*	C	C*	D
Susceptibility Likelihood Score – SLS	<b>63</b>	<b>59</b>	<b>58</b>	<b>64</b>	<b>59</b>	<b>67</b>
SLS Range	Mid	Mid	Mid	Mid	Mid	Mid

**A** – Microbiological

**B\*** – Nitrates

**C\*** – Pesticides

**B** – Inorganic Compounds

**C** – Synthetic Organic Compounds

**D** – Volatile Organic Compounds

## Susceptibility Likelihood Range

SLS Range	
<b>0–50</b>	<b>Low Susceptibility</b>
<b>51–80</b>	<b>Moderate Susceptibility</b>
<b>81–100</b>	<b>High Susceptibility</b>

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## Potential Sources:

The Potential Sources section lists all the sites that have been identified as potential sources of contamination.

Potential sources of contamination may include land uses, industry, or businesses that could generate or store chemicals/substances that could potentially contaminate the water supply only if released into the environment. Both unregulated sites from business location databases and regulated sites from various KDHE databases were compiled. Additional sites could have been added by an evaluator through the assessment process to supplement the original data.

The 1987 Standard Industrial Classifications (SIC) were used to identify potential contaminate sites. The SIC system classifies establishments into industries on the basis of the primary activities of the establishment.

Each assessment area is delineated with 3 assessment zones. These zones can be used to get a general understanding of the potential influence sites have based on proximity to the water supply. Zone A is a 100-foot radius around a groundwater well and a 1000-foot radius around a surface water intake. Zone B is a 2000-foot radius around wells and a hydrological delineated buffer around the surface water sources. Zone C is a 2-mile radius around wells and the balance of the watershed for intakes. The potential sources listed in this section are sorted to show all the potential sources in Zone A first, Zone B second, and Zone C third.

**Although a facility or business is identified in the study as a potential concern, it does not necessarily mean a release or spill has occurred. Contamination could only occur if certain chemical substances are released into the environment and filter into the water supply source.**

The data for the potential sources of contamination was compiled from May through August in 2002. Some of the databases used were incomplete datasets that are continually being updated. Due to the incompleteness, inaccuracies, and new development, it is possible that sources of potential contamination that are in the assessment area are not included in the report. Inaccurate locations could also cause sources to show up in the assessment area that are not actually in the assessment. Additionally, duplication between the datasets could cause sites to show up multiple times in the assessment area.

# Potential Sources

Public Water Supply: **LEAVENWORTH WATER DEPARTMENT**  
Assessment Area: **340**

## Unregulated Potential Site Sources

Source No.	SIC Description	SIC ID	Zone
106342	Veterinary Services, Specialties	742	C
106343	Veterinary Services, Specialties	742	C
102682	Single-family Housing Construction	1521	C
106280	Single-family Housing Construction	1521	C
102720	Nonresidential Construction	1542	C
106273	Newspapers Publishing and Printing	2711	C
106344	Commercial Printing-Lithographic	2752	C
106424	Scrap and Waste Materials	5093	C
102680	Mobile Home Park	6515	C
102814	Mobile Home Park	6515	C
106309	Mobile Home Park	6515	C
102749	Top, Body, and Upholstery Repair Shops and Paint Shops	7532	C
106311	Car Wash	7542	C
102738	Repair Services, Nec	7699	C
106312	Repair Services, Nec	7699	C

## Regulated Confined Animal Feeding Operations Potential Site Sources

Source No.	Source Name	ID/Permit No.	Zone
2001464	Kansas Correctional Industries	A-MOLV-S004	C

## Regulated Hazardous Waste Potential Site Sources

Did Not Contain Any Of These Potential Site Sources
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## Regulated Leaking Storage Tank Potential Site Sources

Did Not Contain Any Of These Potential Site Sources
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## Regulated Identified Contaminated Potential Site Sources

Source No.	Source Name	ID/Permit No.	Zone
7000582	GNB BATTERIES, INC.	C405200022	C
7000583	LANSING CORRECTIONAL FACILITY	C405200028	C
7000584	HALLMARK CARDS – LEAVENWORTH	C405200048	C

## Regulated Solid Waste Potential Site Sources

Source No.	Source Name	ID/Permit No.	Zone
5000035	Lansing Correctional Facility	–S	C
5000466	Lansing Correctional Facility	0449–S	C
5000524	DDE VA Medical Center	0509–S	C



## Regulated Waste Water Potential Site Sources

Source No.	Source Name	ID/Permit No.	Zone
6001547	LANSING	M-MO11-OO02	C
6001548	LANSING	M-MO11-OO02	C
6001549	LANSING	M-MO11-OO02	C

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## **Added Sources:**

The Added Sources section lists all the sites that have been added as potential sources of contamination by an evaluator through the assessment process to supplement the original data.

The potential sources listed in this section are sorted to show the added potential sources in Zone A first, Zone B second, and Zone C third.

**Although a facility or business was added as a potential concern, it does not necessarily mean a release or spill has occurred. Contamination could only occur if certain chemical substances are released into the environment and filter into the water supply source.**

# Added Sources

Public Water Supply: **LEAVENWORTH WATER DEPARTMENT**  
Assessment Area: **340**

## Added Potential Site Sources

Source No.	Source Name	SIC ID	Zone
Did Not Add Any Site Sources			

Public Water Supply: **LEAVENWORTH WATER DEPARTMENT**  
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## **Potential Contaminants Summary:**

The Contaminants Summary shows the number of identified unregulated sources in the assessment area for each contaminant of concern category.

In order to obtain the number of sources for each category, a relationship was correlated between each Standard Industrial Classification (SIC) and the contaminant of concern categories. Each SIC was assessed and associated with contaminant categories. For example, if not managed properly, a car wash (SIC 7542) could potentially contaminate an intake because of inorganic compounds (IOC) and volatile organic compounds (VOC); thus, a car wash is associated with IOCs and VOCs.

A chart displays a count for each contaminant category. The sum for each category represents the total number of identified sources that have been associated with that particular contaminant category. However, the total number of identified sources does not include contaminants from the Added Sources. In our example, a car wash would be considered 2 sources of contamination. It would be a potential source of contamination for IOCs and for VOCs; thus, 1 would be added to the total number of sources in the VOC category and 1 would be added to the IOC category.

# Potential Contaminants Summary

Public Water Supply: **LEAVENWORTH WATER DEPARTMENT**

Assessment Area: **340**

## Number of Unregulated Site Sources Identified for each Contaminant Category

MicroBiological	Pesticides	IOC's	SOC's	VOC's	Nitrates
7	0	12	4	4	5

**A** – Microbiological

**B\*** – Nitrates

**C\*** – Pesticides

**B** – Inorganic Compounds

**C** – Synthetic Organic Compounds

**D** – Volatile Organic Compounds

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## Potential Contaminants Listing:

The Potential Contaminants section lists the contaminant of concern category associated with each Standard Industrial Classification (SIC) found in an assessment area. A complete list of contaminant category codes are located at the bottom of this page.

The relationships defined between the Standard Industrial Classifications (SIC) and the contaminant of concern categories are displayed in a table format. Using our car wash example, the relationships can be better illustrated. A car wash could release IOC and VOC chemical substances. The connection is shown by indicating the SIC, 7542, and the associated contaminant categories, IOC (Category B) and VOC (Category D). However, the contaminants listed are not associated with any Added Sources.

The list is sorted by the SIC source description and it only shows unique SIC sources. For example, an assessment area can have 20 car washes in an assessment area, but the list is only going to show contaminant categories associated with car washes onetime. This is because all car washes have the same SIC and every car wash poses the same potential threat to water intakes.

**A** – Microbiological    **B** – Inorganic Compounds                      **B1** – Eutrophication – Phosphorous  
**B2** – Sedimentation    **B\*** – Nitrates    **C** – Synthetic Organic Compounds  
**C\*** – Pesticides            **D** – Volatile Organic Compounds

# Potential Contaminants Listing

Public Water Supply: LEAVENWORTH WATER DEPARTMENT

Assessment Area: 340

## Unregulated Identified Site Sources and associated Potential Contaminant Category

SIC ID	SIC Source	Potential Contaminant	Contaminant Category
7542	Car Wash	Inorganics, VOCs	B
"	"	"	B1
"	"	"	B2
"	"	"	D
6515	Mobile Home Park	Sanitary wastes, Fertilizers	A
"	"	"	B
"	"	"	B1
"	"	"	B*
1542	Nonresidential Construction	Sedimentation	B2
5093	Scrap and Waste Materials	Metals, TSS	B
1521	Single-family Housing Construction	Oil, Paint, Pesticides, Fertilizers	A
"	"	"	B1
"	"	"	B2
"	"	"	B*
"	"	"	C
7532	Top, Body, and Upholstery Repair Shops and Paint Shops	Inorganics, VOCs	B
"	"	"	D

## Unregulated Identified Site Sources and associated Potential Contaminant Category.

SIC ID	SIC Source	Potential Contaminant	Contaminant Category
742	Veterinary Services, Specialties	Sanitary, Inorganics TSS	A
"	"	"	B
2752	Commercial Printing–Lithographic	Inorganics, VOCs, Semi volatiles	B
"	"	"	C
"	"	"	D
2711	Newspapers Publishing and Printing	Inorganics, VOCs, Semi volatiles	B
"	"	"	C
"	"	"	D
7699	Repair Services, Nec	inorganics	B



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## **Protection Measures:**

The Protection Measures section shows water quality protection measures for the Standard Industrial Classifications (SIC) identified in the assessment area.

Previous sections of this report are designed to show areas that Public Water Supplies (PWS) can focus on to improve the susceptibility of an assessment area. This section helps identify water quality protection measures that a PWS can use as guidance for implementing action for a potential contaminant site in the assessment area. It focuses on protection measures that can reduce the risk of contamination to the water supply.

This portion of the report only displays water quality protection measures for each type of SIC found in the assessment area. It does not display protection measures for each site in the assessment area because every SIC should have the same or similar water quality protection management practices. However, the protection measures listed are not associated with any Added Sources.

# Protection Measures

Public Water Supply: **LEAVENWORTH WATER DEPARTMENT**

Assessment Area: **340**

## Recommended Water Quality Protection Measures

SIC	SIC Source	Contaminant Source	Water Quality Protection Measure	Regulatory Authority
7542	Car Wash	Inorganics, VOCs	Install and maintain sediment and grease traps where appropriate	40 CFR 442
6515	Mobile Home Park	Sanitary wastes, Fertilizers	Discharge to POTW. Minimize use of lawn chemicals	KAR 28–5
1542	Nonresidential Construction	Sedimentation	Erosion and Sediment Control	KAR 28–16, KDHE
5093	Scrap and Waste Materials	Metals, TSS	Minimize contact with storm water	State or federal Storm water pollution prevention regulations
1521	Single–family Housing Construction	Oil, Paint, Pesticides, Fertilizers	Proper cleaning and disposal of household hazardous waste. Proper storage, application, and clean up of pesticides and fertilizers	KAR 28–48, KDHE, KDEM
7532	Top, Body, and Upholstery Repair Shops and Paint Shops	Inorganics, VOCs	Discharge to POTW. Recycle where appropriate. Properly maintain oil product and waste. Manage paint and solvent wastes properly	NA

## Recommended Water Quality Protection Measures

SIC	SIC Source	Contaminant Source	Water Quality Protection Measure	Regulatory Authority
742	Veterinary Services, Specialties	Sanitary, Inorganics TSS	Discharge to POT	NA
2752	Commercial Printing–Lithographic	Inorganics, VOCs, Semi volatiles	Recycle chemicals where possible. Discharge to POTW	40 CFR 459 and State or federal Storm water pollution prevention regulations
2711	Newspapers Publishing and Printing	Inorganics, VOCs, Semi volatiles	Recycle chemicals where possible. Discharge to POTW	40 CFR 459 and State or federal Storm water pollution prevention regulations
7699	Repair Services, Nec	inorganics	Discharge to POTW	NA

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## **Assessment Analysis:**

The Assessment Analysis section displays the numbers assigned to each contaminant of concern category for each question in the susceptibility analysis.

This analysis is based on a decision tree framework consisting of a series of yes/no questions. These questions consider the proximity of contaminant sources to the water supply intake, the type of contaminant, and the application of pollution prevention or water quality protection practices to sources of contamination. As the evaluator moves through the analytical framework, susceptibility points are accumulated based on the presence of contaminant sources in the assessment area.

After all the questions have been answered, the SLS is calculated for each contaminant of concern category. The SLS is determined by counting the number of contamination risk factors found to occur in the delineated assessment area and applying a multiplier to this number. Because the number of contaminant category risk factors is not equal, the multiplier is used to establish a common scale for the SLS of each contaminant category.

# Assessment Analysis

Public Water Supply: **LEAVENWORTH WATER DEPARTMENT**  
Assessment Area: **340**

## Ground Water Multiple Wells Analysis

**A** – Microbiological    **B** – Inorganic Compounds  
**B\*** – Nitrates            **C** – Synthetic Organic Compounds  
**C\*** – Pesticides        **D** – Volatile Organic Compounds

No.	Question	Response	A	B	B*	C	C*	D
1	Is any well under the influence of surface water?	Yes	1	1	1	1	1	1
2	Do all PWS wells meet KS PWS water well construction standards?	Yes	0	0	0	0	0	0
3	Is any well less than 30 feet deep?	No	0	0	0	0	0	0
4	Is gravel pack within 20 feet of any well surface?	No	0	0	0	0	0	0
5	Does a PWS own or control all the areas around the wells?	No	1	1	1	1	1	1
6	Does Zone B consist entirely of native grass?	No	2	2	2	2	2	2
7	Is there a contaminated well in Zone B?	No	0	0	0	0	0	0
8	Is a class V UIC well present?	No	0	0	0	0	0	0
9	Are any commercial, industrial, or urban areas present in Zone B?	Yes	1	1	1	1	1	1
10	Does each industrial/commercial site and urban area have a water quality protection plan in place?	No	1	1	1	1	1	1
11	Are any non-farm home sites present in Zone B?	Yes	1	0	1	0	1	0
12	Do all the non-farm home sites have a water quality protection plan?	No	1	0	1	0	1	0
13	Are any farmsteads present in Zone B?	Yes	1	1	1	1	1	1
14	Do all farmsteads have a water quality protection plan?	No	1	1	1	1	1	1
15	Is there grazing livestock in Zone B?	Yes	1	0	1	0	0	0
16	Have all livestock producers implemented water quality protection measures?	No	1	0	1	0	0	0
17	Is there livestock confinement in Zone B?	Yes	1	1	1	0	1	0

No.	Question	Response	A	B	B*	C	C*	D
18	Is each confined animal feeding operation registered with KDHE?	Yes	0	0	0	0	0	0
19	Is there corn or grain sorghum production in Zone B?	Yes	0	0	1	0	1	0
20	Are corn/grain sorghum nutrient and pesticide management plans in use for each site?	Yes	0	0	0	0	0	0
21	Are any orchards present in Zone B?	No	0	0	0	0	0	0
22	Are orchard nutrient and pesticide management plans in use for each site?	Yes	0	0	0	0	0	0
23	Are there unsewered developments (concentrations of lagoons or septic systems) present in Zone B?	No	0	0	0	0	0	0
24	Is there a railroad or major highway in Zone B or C?	Yes	0	1	1	1	1	1
25	Is there oil production in Zone B or C?	No	0	0	0	0	0	0
26	Do coarse textured soils predominate Zones A, B and C?	Yes	1	1	1	1	1	1
27	Is an irrigation well located in Zone B or C?	No	0	0	0	0	0	0
28	Is a wastewater treatment facility in Zone B or C?	Yes	1	1	1	1	1	1
29	Is a solid waste landfill in Zone B or C?	Yes	1	1	1	1	1	1
30	Are there unplugged, abandoned water wells present in Zone C?	No	0	0	0	0	0	0
31	Are any commercial, industrial, or urban area present in Zone C?	Yes	1	1	1	1	1	1
32	Does each industrial/commercial site and urban area have a water quality protection plan in place?	No	1	1	1	1	1	1
33	Is there livestock confinement in Zone C?	No	0	0	0	0	0	0
34	Is each confined livestock facility registered with KDHE?	Yes	0	0	0	0	0	0
35	Do all the livestock producers have water quality protection measures in place?	Yes	0	0	0	0	0	0
36	Are cropland nutrient management plans in place?	Yes	0	0	0	0	0	0
37	Are cropland pesticide management plans in place?	Yes	0	0	0	0	0	0
38	Does a perennial stream flow into Zone C?	Yes	1	1	1	1	1	1
39	Are watershed water quality protection plans in place?	No	1	1	1	1	1	1

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## **Site Comments:**

The Site Comments section lists all the comments that were added for the potential sources of contamination found in the assessment area.

Local comments and feedback from people that are familiar with the assessment area is an important aspect of the assessment. The comments greatly improve the assessment by adding detail to the sites that can be referenced for more information.

This local information may include comments on potential contamination threats (or lack there of), local water quality protection initiatives, etc. Adding comments are optional and are mainly focused on sources in areas that could have the greatest impact on water supply if a spill or release occurred in the environment. It is left to the discretion of the PWS and/or source water assessment committee to add comments.

# Site Comments

Public Water Supply: **LEAVENWORTH WATER DEPARTMENT**

Assessment Area: **340**

## Comments for Unregulated Sites

Potential Contaminant Site No.	Site Comments	Author
102680	The mobile home park is no longer at this location.	Richard Moppin

## Comments for Regulated Confined Animal Feeding Operations Sites

Did Not Receive Any Comments
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## Comments for Regulated Hazardous Waste Sites

Did Not Receive Any Comments
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## Comments for Regulated Leaking Storage Tank Sites

Did Not Receive Any Comments
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## Comments for Regulated Identified Contaminated Sites

Did Not Receive Any Comments
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## **Comments for Regulated Solid Waste Sites**

Did Not Receive Any Comments
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## **Comments for Regulated Waste Water Sites**

Did Not Receive Any Comments
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### **Added Site Comments:**

The Added Site Comments section lists the comments for why sites were added as a potential source of contamination found to the assessment area.

# Added Site Comments

Public Water Supply: **LEAVENWORTH WATER DEPARTMENT**  
Assessment Area: **340**

## Comments for Added Contaminant Sites

Added Contaminant Site Name	Site No.	Site Comments	Author
Did Not Receive Any Comments			

Public Water Supply: **LEAVENWORTH WATER DEPARTMENT**  
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## **Analysis Question Comments:**

The Analysis Question Comments section lists all the comments that were added during analysis portion of the assessment, in which a series of yes/no questions were asked.

Evaluators have the option to add comments to questions to clarify why a response was given or to give more details to a question. Local comments and feedback from people that are familiar with the assessment area is an important aspect of the assessment. The comments greatly improve the assessment by adding clarification and details that could not be identified with a simple yes or no response.

# Analysis Question Comments

Public Water Supply: **LEAVENWORTH WATER DEPARTMENT**  
Assessment Area: **340**

## Comments for Analysis Questions

Analysis Question	Question Comments	Author
Did Not Receive Any Comments		

Public Water Supply: **LEAVENWORTH WATER DEPARTMENT**  
Assessment Area: **342**  
Diversion Id's: **999**  
Status: **Accepted**  
Submit Date: **2003-01-29 15:28:00**

## **Executive Summary:**

The Executive Summary gives the assessment area's Susceptibility Likelihood Score (SLS) for each contaminant of concern category.

SLS indicates which contaminant category is most likely to impact a given public water supply. Contaminants of concern for groundwater include microbiological, inorganic compounds, nitrates, synthetic organic compounds, pesticides, and volatile organic compounds. Contaminants of concern for surface water include microbiological, inorganic compounds, eutrophication – phosphorus, sedimentation, synthetic organic compounds, pesticides, and volatile organic compounds.

To determine the assessment area's susceptibility to contamination, a qualitative (semi-quantitative) screening level susceptibility analysis was designed that utilizes general assumptions and best professional judgement. It is a systematic procedure comprised of simple yes/no questions. Each question in the susceptibility analysis focuses on the presence or absence of potential pollution sources in the assessment area. SLS is most useful in helping the Public Water Supply (PWS) focus on water quality protection actions towards a contaminant category of concern. For example, if the SLS for microbiological contamination is high, relative to volatile organic compounds (VOC), water supply protection planners would conclude that the attention should be directed towards microbiological contaminant sources rather than VOC sources.

# Executive Summary

Public Water Supply: **LEAVENWORTH WATER DEPARTMENT**  
Assessment Area: **342**

## Susceptibility Likelihood Scores for Assessment Area

	<b>A</b>	<b>B</b>	<b>B1</b>	<b>B2</b>	<b>C</b>	<b>C*</b>	<b>D</b>
Susceptibility Likelihood Score – SLS	<b>40</b>	<b>52</b>	<b>30</b>	<b>34</b>	<b>52</b>	<b>36</b>	<b>51</b>
SLS Range	<b>Low</b>	<b>Mid</b>	<b>Low</b>	<b>Low</b>	<b>Mid</b>	<b>Low</b>	<b>Low</b>

**A** – Microbiological

**B2** – Sedimentation

**C\*** – Pesticides

**B** – Inorganic Compounds

**C** – Synthetic Organic Compounds

**D** – Volatile Organic Compounds

**B1** – Eutrophication – Phosphorous

## Susceptibility Likelihood Range

SLS Range	
<b>0–50</b>	<b>Low Susceptibility</b>
<b>51–80</b>	<b>Moderate Susceptibility</b>
<b>81–100</b>	<b>High Susceptibility</b>

Public Water Supply: **LEAVENWORTH WATER DEPARTMENT**  
Assessment Area: **342**  
Diversion Id's: **999**  
Status: **Accepted**  
Submit Date: **2003-01-29 15:28:00**

## Potential Sources:

The Potential Sources section lists all the sites that have been identified as potential sources of contamination.

Potential sources of contamination may include land uses, industry, or businesses that could generate or store chemicals/substances that could potentially contaminate the water supply only if released into the environment. Both unregulated sites from business location databases and regulated sites from various KDHE databases were compiled. Additional sites could have been added by an evaluator through the assessment process to supplement the original data.

The 1987 Standard Industrial Classifications (SIC) were used to identify potential contaminate sites. The SIC system classifies establishments into industries on the basis of the primary activities of the establishment.

Each assessment area is delineated with 3 assessment zones. These zones can be used to get a general understanding of the potential influence sites have based on proximity to the water supply. Zone A is a 100-foot radius around a groundwater well and a 1000-foot radius around a surface water intake. Zone B is a 2000-foot radius around wells and a hydrological delineated buffer around the surface water sources. Zone C is a 2-mile radius around wells and the balance of the watershed for intakes. The potential sources listed in this section are sorted to show all the potential sources in Zone A first, Zone B second, and Zone C third.

**Although a facility or business is identified in the study as a potential concern, it does not necessarily mean a release or spill has occurred. Contamination could only occur if certain chemical substances are released into the environment and filter into the water supply source.**

The data for the potential sources of contamination was compiled from May through August in 2002. Some of the databases used were incomplete datasets that are continually being updated. Due to the incompleteness, inaccuracies, and new development, it is possible that sources of potential contamination that are in the assessment area are not included in the report. Inaccurate locations could also cause sources to show up in the assessment area that are not actually in the assessment. Additionally, duplication between the datasets could cause sites to show up multiple times in the assessment area.



# Potential Sources

Public Water Supply: **LEAVENWORTH WATER DEPARTMENT**  
Assessment Area: **342**

## Unregulated Potential Site Sources

Source No.	SIC Description	SIC ID	Zone
100581	Deciduous Tree Fruit Orchard	175	B
100209	Veterinary Services, Specialties	742	B
100210	Veterinary Services, Specialties	742	B
100211	Veterinary Services, Specialties	742	B
100619	Animal Specialty Services	752	B
100015	Single-family Housing Construction	1521	B
100048	Single-family Housing Construction	1521	B
100212	Single-family Housing Construction	1521	B
100242	Single-family Housing Construction	1521	B
100243	Single-family Housing Construction	1521	B
100408	Single-family Housing Construction	1521	B
101859	Single-family Housing Construction	1521	B
113605	Single-family Housing Construction	1521	B
100326	Highway and Street Construction	1611	B
100012	Flour Mill and Other Food Grain Milling	2041	B
100299	Flour Mill and Other Food Grain Milling	2041	B

## Unregulated Potential Site Sources

Source No.	SIC Description	SIC ID	Zone
100452	Prepared Feeds For Animals and Fowls	2048	B
105495	Uncoated Paper and Multiwall Bags	2674	B
100375	Newspapers Publishing and Printing	2711	B
100449	Newspapers Publishing and Printing	2711	B
100363	Commercial Printing–Lithographic	2752	B
100401	Commercial Printing NEC	2759	B
100017	Nitrogen Fertilizer Manufacturing	2873	B
100443	Nitrogen Fertilizer Manufacturing	2873	B
100434	Fertilizers, Mixing Manufacturing	2875	B
100436	Ready–mix Concrete Plant	3273	B
100536	Steel Foundry	3325	B
100010	Farm Product Warehousing and Storage	4221	B
100011	Farm Product Warehousing and Storage	4221	B
100008	Refuse Systems	4953	B
100022	Farm and Garden Machinery	5083	B
100398	Farm and Garden Machinery	5083	B
100023	Scrap and Waste Materials	5093	B
100204	Gasoline Service Station	5541	B
100215	Gasoline Service Station	5541	B
100239	Photofinishing Laboratory	7384	B
100457	Top, Body, and Upholstery Repair Shops and Paint Shops	7532	B
100527	Top, Body, and Upholstery Repair Shops and Paint Shops	7532	B

## Unregulated Potential Site Sources

Source No.	SIC Description	SIC ID	Zone
100617	Top, Body, and Upholstery Repair Shops and Paint Shops	7532	B
100227	Auto Truck Repair Service	7538	B
100422	Auto Truck Repair Service	7538	B
105477	Auto Truck Repair Service	7538	B
105505	Auto Truck Repair Service	7538	B
113603	Auto Truck Repair Service	7538	B
100448	Car Wash	7542	B
100470	Car Wash	7542	B
100518	Repair Services, Nec	7699	B
102651	General Farm, Primarily Crop	191	C
100567	Veterinary Services, Specialties	742	C
106533	Animal Specialty Services	752	C
106551	Rock Quarry	1429	C
100086	Single-family Housing Construction	1521	C
100130	Single-family Housing Construction	1521	C
100177	Single-family Housing Construction	1521	C
100575	Single-family Housing Construction	1521	C
100598	Single-family Housing Construction	1521	C
101846	Single-family Housing Construction	1521	C
101847	Single-family Housing Construction	1521	C
106550	Single-family Housing Construction	1521	C
106552	Single-family Housing Construction	1521	C

## Unregulated Potential Site Sources

Source No.	SIC Description	SIC ID	Zone
106571	Single-family Housing Construction	1521	C
113305	Single-family Housing Construction	1521	C
113531	Single-family Housing Construction	1521	C
113589	Single-family Housing Construction	1521	C
113609	Single-family Housing Construction	1521	C
100126	Nonresidential Construction	1542	C
100439	Nonresidential Construction	1542	C
100576	Highway and Street Construction	1611	C
100568	Meat Packing Plant Manufacturing	2011	C
113308	Newspapers Publishing and Printing	2711	C
113309	Newspapers Publishing and Printing	2711	C
113575	Newspapers Publishing and Printing	2711	C
100572	Commercial Printing-Lithographic	2752	C
113310	Commercial Printing NEC	2759	C
100613	Steel Pipe and Tubes Manufacturing	3317	C
100589	Fabricated Plate Work (boiler shops) Manufacturing	3443	C
100573	Machinery, Except Electrical Manufacturing	3599	C
100594	Machinery, Except Electrical Manufacturing	3599	C
100978	Farm Product Warehousing and Storage	4221	C
113598	Farm Product Warehousing and Storage	4221	C

## Unregulated Potential Site Sources

Source No.	SIC Description	SIC ID	Zone
113535	Refuse Systems	4953	C
113614	Refuse Systems	4953	C
100570	Farm and Garden Machinery	5083	C
100590	Farm and Garden Machinery	5083	C
113608	Farm and Garden Machinery	5083	C
113320	Gasoline Service Station	5541	C
113539	Gasoline Service Station	5541	C
100431	Mobile Home Park	6515	C
113541	Mobile Home Park	6515	C
100166	Top, Body, and Upholstery Repair Shops and Paint Shops	7532	C
100172	Top, Body, and Upholstery Repair Shops and Paint Shops	7532	C
101571	Top, Body, and Upholstery Repair Shops and Paint Shops	7532	C
113334	Top, Body, and Upholstery Repair Shops and Paint Shops	7532	C
113584	Top, Body, and Upholstery Repair Shops and Paint Shops	7532	C
113617	Top, Body, and Upholstery Repair Shops and Paint Shops	7532	C
100173	Auto Truck Repair Service	7538	C
100179	Auto Truck Repair Service	7538	C

## Unregulated Potential Site Sources

Source No.	SIC Description	SIC ID	Zone
100180	Auto Truck Repair Service	7538	C
100591	Auto Truck Repair Service	7538	C
100602	Auto Truck Repair Service	7538	C
113335	Auto Truck Repair Service	7538	C
113336	Auto Truck Repair Service	7538	C
113402	Auto Truck Repair Service	7538	C
113546	Auto Truck Repair Service	7538	C
113568	Auto Truck Repair Service	7538	C
113601	Auto Truck Repair Service	7538	C
100427	Car Wash	7542	C
113547	Car Wash	7542	C
113548	Car Wash	7542	C

## Regulated Confined Animal Feeding Operations Potential Site Sources

Source No.	Source Name	ID/Permit No.	Zone
2000209	Heim, Eugene	A-MOLV-BA01	B
2001510	April Valley Farms	A-MOLV-S002	B
2000150	Demaranville, Robert	A-KSLV-MA09	C
2000163	Demaranville Dairy	A-KSLV-MA04	C
2000387	Meng, Donald	A-MODP-MA09	C
2001071	Schletzbaum, Dan	A-MOAT-S002	C

## Regulated Confined Animal Feeding Operations Potential Site Sources

Source No.	Source Name	ID/Permit No.	Zone
2001118	Buttron, Karl L.	A-MOAT-S003	C
2001404	Bollin, George A.	A-MOLV-S001	C
2001691	Winchester Hog Building	A-MODP-S012	C
2001828	Watowa Farms	A-MOAT-S004	C
2001881	Fuhrman Brothers	A-MOAT-S001	C
2002228	Pauly Farms, Inc.	A-MODP-BA01	C

## Regulated Hazardous Waste Potential Site Sources

Did Not Contain Any Of These Potential Site Sources
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## Regulated Leaking Storage Tank Potential Site Sources

Source No.	Source Name	ID/Permit No.	Zone
3000014	Atchisn Service Center	00066	B
3000034	Ez Shop #32	00159	B
3000089	Conoco, Baker	01073	B
3000279	Midwest Grain	03360	B
3000972	Bromley Quarry Asphalt Inc	12198	B
3001117	Anglers Bait Shop	16841	B
3001382	Usd 409, Ingalls Jr Hs	24546	B

## Regulated Leaking Storage Tank Potential Site Sources

Source No.	Source Name	ID/Permit No.	Zone
3001508	Cardox	25682	B
3001702	Texaco #29-126-0008	26588	B
3002214	Upr, Atchison	29142	B
3002286	Benedictine College, Library	29488	B
3002660	Clem, James	81209	B
3002858	Maur Hill Prep School	81735	B
3002868	Atchison Casting	81767	B
3000491	Usd 409, Atchison	05980	C
3000786	Atchison Co, Shop	07849	C
3000800	Atchison, City Shop	07952	C
3001163	Phalen Chevrolet	18657	C
3001718	Kdot, Atchison	26635	C
3002068	Blish Mize Co	28356	C
3002297	Amelia Earhart Airport	29557	C
3002741	Full Moon Saloon	81391	C

## Regulated Identified Contaminated Potential Site Sources

Source No.	Source Name	ID/Permit No.	Zone
7000483	AT- ATCHISON	C400303004	B
7000485	ATCHISON SENIOR CENTER	C400371330	B
7000588	USP LEAVENWORTH LANDFILL	C405203024	B



## Regulated Identified Contaminated Potential Site Sources

Source No.	Source Name	ID/Permit No.	Zone
7000591	MIDWEST RELAY/RADIO TRANSMITTER (FORMER)	C405271254	B
7000592	KCDA NIKE 80 RADAR (FORMER)	C405271258	B
7000950	FT LEAVENWORTH – FTL–12 – USED OIL TANK, BLDG 305	C405271497	B
7000951	FT LEAVENWORTH – FTL–13 – USED OIL TANK, BLDG 689	C405271498	B
7000952	FT LEAVENWORTH – FTL–20 – SEPTIC TANK, USDB GRNHSE	C405271505	B
7000953	FT LEAVENWORTH – FTL–21 – SEPTIC TANK, BLDG 428	C405271506	B
7000955	FT LEAVENWORTH – FTL–35 – WASH RACK, BLDG 571	C405271520	B
7000956	FT LEAVENWORTH – FTL–38 – WASH RACK, RECYC CTR,305	C405271523	B
7000957	FT LEAVENWORTH – FTL–44 – INCINERATOR, BLDG 632	C405271529	B
7000958	FT LEAVENWORTH – FTL–45 – INCINERATOR, BLDG 136	C405271530	B
7000960	FT LEAVENWORTH – FTL–52 – USED OIL TANK, BLDG 109	C405271537	B
7000961	FT LEAVENWORTH – FTL–53 – USED OIL TANK, USDB	C405271538	B

## Regulated Identified Contaminated Potential Site Sources

Source No.	Source Name	ID/Permit No.	Zone
7000962	FT LEAVENWORTH – FTL–56 – FLYING CLUB USED OILAREA	C405271541	B
7000963	FT LEAVENWORTH – FTL–60 – STRIPPING AREA, S GRNHSE	C405271545	B
7000965	FT LEAVENWORTH – FTL–64 – USED TANK, BLDG 264	C405271549	B
7000966	FT LEAVENWORTH – FTL–26 – PAST PESTICIDE,BLDG 234A	C405271511	B
7000967	FT LEAVENWORTH – FTL–67 – UNDERGRD STOR TANKS, 350	C405271552	B
7000968	FT LEAVENWORTH – FTL–68 – WEED CONTROL, CITY OF LV	C405271553	B
7000969	FT LEAVENWORTH – FTL–70 – FUEL OIL LEAK, USDB	C405271555	B
7000481	CON AGRA	C400300133	C
7000482	UNION PACIFIC ATCHISION RAIL YARD	C400303000	C
7000484	FMGP – ATCHISON	C400370039	C
7000493	BENDENA RWD #2, PWS WELL #1	C402200005	C
7000589	FT LEAVENWORTH	C405270004	C
7000954	FT LEAVENWORTH – FTL–22 – SEPTIC TANK, BLDG 425	C405271507	C
7000959	FT LEAVENWORTH – FTL–48 – SEWAGE TRTMT SYSTEM, 138	C405271533	C

## Regulated Identified Contaminated Potential Site Sources

Source No.	Source Name	ID/Permit No.	Zone
7000964	FT LEAVENWORTH – FTL-62 – UNDERGROUND PROPANE TANK	C405271547	C

## Regulated Solid Waste Potential Site Sources

Source No.	Source Name	ID/Permit No.	Zone
5000063	Doniphan County	0111-S	B
5000183	Rockwell International	0191-S	B
5000266	Atchison County	0260-S	B
5000309	Faun T. Scott	0299-S	B
5000369	Ft. Leavenworth	0362-S	B
5000655	Midland Quarry Company	0644-S	B
5000710	Deffenbaugh Industries, Inc.	0689-S	B
5000809	Kansas Composting, Inc.	0781-S	B
5000313	John Brox	0303-S	C
5000332	Elsie Zacharias	0323-S	C
5000333	RRTrucking	0324-S	C
5000489	Atchison Casting Corp.	0473-S	C

## Regulated Waste Water Potential Site Sources

Source No.	Source Name	ID/Permit No.	Zone
6000317	KDHE/BER (UNION PACIFIC RAILYARD)	I-MO01-PO09	B

## Regulated Waste Water Potential Site Sources

Source No.	Source Name	ID/Permit No.	Zone
6000793	MIDWEST GRAIN PRODUCTS	I-MO01-PO01	B
6000794	MIDWEST GRAIN PRODUCTS	I-MO01-PO01	B
6000795	MIDWEST GRAIN PRODUCTS	I-MO01-PO01	B
6000796	BROMLEY QUARRY AND ASPHALT, INC.	I-MO01-PO03	B
6000798	MIDLAND QUARRY COMPANY – EAST QUARRY	I-MO01-PO06	B
6000799	HERZOG CONTRACTING – MO KAN PLANT	I-MO05-NP01	B
6001532	ATCHISON MWTP	M-MO01-IO01	B
6001533	ATCHISON MWTP	M-MO01-IO01	B
6001534	ATCHISON MWTP	M-MO01-IO01	B
6001535	ATCHISON MWTP	M-MO01-IO01	B
6001536	ATCHISON MWTP	M-MO01-IO01	B
6001564	WATHENA MWTF	M-MO23-OO01	B
6002015	ATCHISON STEEL CASTING MACHINING	P-MO01-IO01	B
6000057	DEPT. ARMY–FT. LEAVENWORTH	F-MO12-PO04	C
6000178	GENEX	I-MO05-NP02	C
6000797	HAMM – CHRISTIAN #84	I-MO01-PO04	C
6000802	HERZOG CONTRACTING – WATHENA	I-MO23-PO01	C
6001537	ATCHISON MWTP	M-MO01-IO01	C
6001538	ATCHISON MWTP	M-MO01-IO01	C
6001539	ATCHISON MWTP	M-MO01-IO01	C
6001542	ELWOOD MWTP	M-MO05-OO01	C
6001562	TROY (PETERS CREEK)	M-MO22-OO01	C
6002016	OMNIQUIP TEXTRON SNORKEL INTERNATIONAL	P-MO05-OO01	C

## Regulated Waste Water Potential Site Sources

Source No.	Source Name	ID/Permit No.	Zone
6002017	BOEHRINGER INGELHEIM ANIMAL HEALTH	P-MO05-OO02	C
6002020	SKYJACK EQUIPMENT, INC.	P-MO23-OO01	C

Public Water Supply: **LEAVENWORTH WATER DEPARTMENT**  
Assessment Area: **342**  
Diversion Id's: **999**  
Status: **Accepted**  
Submit Date: **2003-01-29 15:28:00**

## **Added Sources:**

The Added Sources section lists all the sites that have been added as potential sources of contamination by an evaluator through the assessment process to supplement the original data.

The potential sources listed in this section are sorted to show the added potential sources in Zone A first, Zone B second, and Zone C third.

**Although a facility or business was added as a potential concern, it does not necessarily mean a release or spill has occurred. Contamination could only occur if certain chemical substances are released into the environment and filter into the water supply source.**

# Added Sources

Public Water Supply: **LEAVENWORTH WATER DEPARTMENT**  
Assessment Area: **342**

## Added Potential Site Sources

Source No.	Source Name	SIC ID	Zone
Did Not Add Any Site Sources			

Public Water Supply: **LEAVENWORTH WATER DEPARTMENT**  
Assessment Area: **342**  
Diversion Id's: **999**  
Status: **Accepted**  
Submit Date: **2003-01-29 15:28:00**

## **Potential Contaminants Summary:**

The Contaminants Summary shows the number of identified unregulated sources in the assessment area for each contaminant of concern category.

In order to obtain the number of sources for each category, a relationship was correlated between each Standard Industrial Classification (SIC) and the contaminant of concern categories. Each SIC was assessed and associated with contaminant categories. For example, if not managed properly, a car wash (SIC 7542) could potentially contaminate an intake because of inorganic compounds (IOC) and volatile organic compounds (VOC); thus, a car wash is associated with IOCs and VOCs.

A chart displays a count for each contaminant category. The sum for each category represents the total number of identified sources that have been associated with that particular contaminant category. However, the total number of identified sources does not include contaminants from the Added Sources. In our example, a car wash would be considered 2 sources of contamination. It would be a potential source of contamination for IOCs and for VOCs; thus, 1 would be added to the total number of sources in the VOC category and 1 would be added to the IOC category.



# Potential Contaminants Summary

Public Water Supply: **LEAVENWORTH WATER DEPARTMENT**

Assessment Area: **342**

## Number of Unregulated Site Sources Identified for each Contaminant Category

MicroBiological	Sedimentation	Pesticides	IOC's	SOC's	VOC's	E – P
37	40	6	81	34	57	37

**A** – Microbiological

**B2** – Sedimentation

**C\*** – Pesticides

**B** – Inorganic Compounds

**C** – Synthetic Organic Compounds

**D** – Volatile Organic Compounds

**B1** – Eutrophication – Phosphorous

Public Water Supply: **LEAVENWORTH WATER DEPARTMENT**  
Assessment Area: **342**  
Diversion Id's: **999**  
Status: **Accepted**  
Submit Date: **2003-01-29 15:28:00**

## Potential Contaminants Listing:

The Potential Contaminants section lists the contaminant of concern category associated with each Standard Industrial Classification (SIC) found in an assessment area. A complete list of contaminant category codes are located at the bottom of this page.

The relationships defined between the Standard Industrial Classifications (SIC) and the contaminant of concern categories are displayed in a table format. Using our car wash example, the relationships can be better illustrated. A car wash could release IOC and VOC chemical substances. The connection is shown by indicating the SIC, 7542, and the associated contaminant categories, IOC (Category B) and VOC (Category D). However, the contaminants listed are not associated with any Added Sources.

The list is sorted by the SIC source description and it only shows unique SIC sources. For example, an assessment area can have 20 car washes in an assessment area, but the list is only going to show contaminant categories associated with car washes onetime. This is because all car washes have the same SIC and every car wash poses the same potential threat to water intakes.

<b>A</b> – Microbiological	<b>B</b> – Inorganic Compounds	<b>B1</b> – Eutrophication – Phosphorous
<b>B2</b> – Sedimentation	<b>B*</b> – Nitrates	<b>C</b> – Synthetic Organic Compounds
<b>C*</b> – Pesticides	<b>D</b> – Volatile Organic Compounds	

# Potential Contaminants Listing

Public Water Supply: **LEAVENWORTH WATER DEPARTMENT**

Assessment Area: **342**

## Unregulated Identified Site Sources and associated Potential Contaminant Category

SIC ID	SIC Source	Potential Contaminant	Contaminant Category
7538	Auto Truck Repair Service	Inorganics, VOCs	B
"	"	"	D
7542	Car Wash	Inorganics, VOCs	B
"	"	"	B1
"	"	"	B2
"	"	"	D
3443	Fabricated Plate Work (boiler shops) Manufacturing	inorganics	B
"	"	"	D
2875	Fertilizers, Mixing Manufacturing	Nitrogen, phosphorous	B
"	"	"	B*
2041	Flour Mill and Other Food Grain Milling	BOD, TSS	A
"	"	"	B
5541	Gasoline Service Station	Inorganics, VOCs	B
"	"	"	D
1611	Highway and Street Construction	Sedimentation	B2
3599	Machinery, Except Electrical Manufacturing	inorganics, VOCs	B
"	"	"	D

## Unregulated Identified Site Sources and associated Potential Contaminant Category.

SIC ID	SIC Source	Potential Contaminant	Contaminant Category
2011	Meat Packing Plant Manufacturing	BOD, pathogens, Oil and grease	A
"	"	"	B*
6515	Mobile Home Park	Sanitary wastes, Fertilizers	A
"	"	"	B
"	"	"	B1
"	"	"	B*
2873	Nitrogen Fertilizer Manufacturing	nitrogen	B
"	"	"	B*
1542	Nonresidential Construction	Sedimentation	B2
7384	Photofinishing Laboratory	NA	B
"	"	"	D
3273	Ready-mix Concrete Plant	Minerals and TSS	B
1429	Rock Quarry	Sedimentation	B2
5093	Scrap and Waste Materials	Metals, TSS	B
1521	Single-family Housing Construction	Oil, Paint, Pesticides, Fertilizers	A
"	"	"	B1
"	"	"	B2
"	"	"	B*
"	"	"	C

## Unregulated Identified Site Sources and associated Potential Contaminant Category.

SIC ID	SIC Source	Potential Contaminant	Contaminant Category
3325	Steel Foundry	Minerals, metals and TSS	B
3317	Steel Pipe and Tubes Manufacturing	Inorganics, metals, VOCs	B
"	"	"	D
7532	Top, Body, and Upholstery Repair Shops and Paint Shops	Inorganics, VOCs	B
"	"	"	D
742	Veterinary Services, Specialties	Sanitary, Inorganics TSS	A
"	"	"	B
752	Animal Specialty Services	Sanitary, fertilizers	A
"	"	"	B
"	"	"	B1
"	"	"	B2
"	"	"	B*
2759	Commercial Printing NEC	Inorganics, VOCs, Semi volatiles	B
"	"	"	C
"	"	"	D
2752	Commercial Printing–Lithographic	Inorganics, VOCs, Semi volatiles	B
"	"	"	C
"	"	"	D
175	Deciduous Tree Fruit Orchard	fertilizers, pesticides, VOCs	B

## Unregulated Identified Site Sources and associated Potential Contaminant Category.

SIC ID	SIC Source	Potential Contaminant	Contaminant Category
175	Deciduous Tree Fruit Orchard	fertilizers, pesticides, VOCs	B1
"	"	"	B2
"	"	"	B*
"	"	"	C*
"	"	"	D
4221	Farm Product Warehousing and Storage	TSS, VOCs	B
"	"	"	D
5083	Farm and Garden Machinery	inorganics	B
191	General Farm, Primarily Crop	fertilizers, Pesticides	B
"	"	"	B1
"	"	"	B2
"	"	"	B*
"	"	"	C*
2711	Newspapers Publishing and Printing	Inorganics, VOCs, Semi volatiles	B
"	"	"	C
"	"	"	D
2048	Prepared Feeds For Animals and Fowls	Sanitary, Nitrates, phosphorous and pesticides	A
"	"	"	B
"	"	"	B1

## Unregulated Identified Site Sources and associated Potential Contaminant Category.

SIC ID	SIC Source	Potential Contaminant	Contaminant Category
2048	Prepared Feeds For Animals and Fowls	Sanitary, Nitrates, phosphorous and pesticides	B2
"	"	"	B*
"	"	"	C*
4953	Refuse Systems	ALL	A
"	"	"	B
"	"	"	B1
"	"	"	B2
"	"	"	B*
"	"	"	C
"	"	"	C*
"	"	"	D
7699	Repair Services, Nec	inorganics	B
2674	Uncoated Paper and Multiwall Bags	Inorganics, VOCs	B
"	"	"	D

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## **Protection Measures:**

The Protection Measures section shows water quality protection measures for the Standard Industrial Classifications (SIC) identified in the assessment area.

Previous sections of this report are designed to show areas that Public Water Supplies (PWS) can focus on to improve the susceptibility of an assessment area. This section helps identify water quality protection measures that a PWS can use as guidance for implementing action for a potential contaminant site in the assessment area. It focuses on protection measures that can reduce the risk of contamination to the water supply.

This portion of the report only displays water quality protection measures for each type of SIC found in the assessment area. It does not display protection measures for each site in the assessment area because every SIC should have the same or similar water quality protection management practices. However, the protection measures listed are not associated with any Added Sources.



# Protection Measures

Public Water Supply: **LEAVENWORTH WATER DEPARTMENT**

Assessment Area: **342**

## Recommended Water Quality Protection Measures

SIC	SIC Source	Contaminant Source	Water Quality Protection Measure	Regulatory Authority
7538	Auto Truck Repair Service	Inorganics, VOCs	Discharge to POTW. Manage oil products and used oil so that it is not in contact with water	40 CFR 442 and
7542	Car Wash	Inorganics, VOCs	Install and maintain sediment and grease traps where appropriate	40 CFR 442
3443	Fabricated Plate Work (boiler shops) Manufacturing	inorganics	Minimize outdoor storage and control storm water runoff. Pre-treat process wastewater prior to discharge to POTW	40 CFR 464 and State or federal Storm water pollution prevention regulations
2875	Fertilizers, Mixing Manufacturing	Nitrogen, phosphorous	Minimize contact of product with water. Contain and treat process wastewater Protect product from contact with water.	40 CFR 418 and State or federal Storm water pollution prevention regulations
2041	Flour Mill and Other Food Grain Milling	BOD, TSS	Wastewater pretreatment and/or discharge to a POTW	40 CFR 122 and State or federal Storm water pollution prevention regulations
5541	Gasoline Service Station	Inorganics, VOCs	Maintain area to minimize fuel contamination	NA

## Recommended Water Quality Protection Measures

SIC	SIC Source	Contaminant Source	Water Quality Protection Measure	Regulatory Authority
1611	Highway and Street Construction	Sedimentation	Erosion and Sediment Control	KAR 28–16, KDHE
3599	Machinery, Except Electrical Manufacturing	inorganics, VOCs	Manage wastes properly and treat process wastewater prior to discharge to a POTW or direct	State or federal Storm water pollution prevention regulations
2011	Meat Packing Plant Manufacturing	BOD, pathogens, Oil and grease	Wastewater pretreatment and/or discharge to a POTW	40CFR 432 and State or federal Storm water pollution prevention regulations
6515	Mobile Home Park	Sanitary wastes, Fertilizers	Discharge to POTW. Minimize use of lawn chemicals	KAR 28–5
2873	Nitrogen Fertilizer Manufacturing	nitrogen	Minimize contact of product with water. Contain and treat process wastewater	40 CFR 418 and State or federal Storm water pollution prevention regulations
1542	Nonresidential Construction	Sedimentation	Erosion and Sediment Control	KAR 28–16, KDHE

## Recommended Water Quality Protection Measures

SIC	SIC Source	Contaminant Source	Water Quality Protection Measure	Regulatory Authority
7384	Photofinishing Laboratory	NA	Discharge to POTW. Recycle chemicals	CFR 40 459
3273	Ready-mix Concrete Plant	Minerals and TSS	Minimize outdoor storage and control storm water runoff.	State or federal Storm water pollution prevention regulations
1429	Rock Quarry	Sedimentation	Erosion and Sediment Control	KAR 28-16
5093	Scrap and Waste Materials	Metals, TSS	Minimize contact with storm water	State or federal Storm water pollution prevention regulations
1521	Single-family Housing Construction	Oil, Paint, Pesticides, Fertilizers	Proper cleaning and disposal of household hazardous waste. Proper storage, application, and clean up of pesticides and fertilizers	KAR 28-48, KDHE, KDEM
3325	Steel Foundry	Minerals, metals and TSS	Minimize outdoor storage and control storm water runoff. Pre-treat process wastewater prior to discharge to POTW	40 CFR 420 and State or federal Storm water pollution prevention regulations

## Recommended Water Quality Protection Measures

SIC	SIC Source	Contaminant Source	Water Quality Protection Measure	Regulatory Authority
3317	Steel Pipe and Tubes Manufacturing	Inorganics, metals, VOCs	Minimize outdoor storage and control storm water runoff. Pre-treat process wastewater prior to discharge to POTW	40 CFR 464 and State or federal Storm water pollution prevention regulations
7532	Top, Body, and Upholstery Repair Shops and Paint Shops	Inorganics, VOCs	Discharge to POTW. Recycle where appropriate. Properly maintain oil product and waste. Manage paint and solvent wastes properly	NA
742	Veterinary Services, Specialties	Sanitary, Inorganics TSS	Discharge to POT	NA
752	Animal Specialty Services	Sanitary, fertilizers	Collect and treat wastes.	NA
2759	Commercial Printing NEC	Inorganics, VOCs, Semi volatiles	Recycle chemicals where possible. Discharge to POTW	40 CFR 459 and State or federal Storm water pollution prevention regulations
2752	Commercial Printing—Lithographic	Inorganics, VOCs, Semi volatiles	Recycle chemicals where possible. Discharge to POTW	40 CFR 459 and State or federal Storm water pollution prevention regulations

## Recommended Water Quality Protection Measures

SIC	SIC Source	Contaminant Source	Water Quality Protection Measure	Regulatory Authority
175	Deciduous Tree Fruit Orchard	fertilizers, pesticides, VOCs	Minimize the use of chemicals and pesticides. Maintain good erosion control practices	NA
4221	Farm Product Warehousing and Storage	TSS, VOCs	Keep the area clean of grain. Use grease traps.	State or federal Storm water pollution prevention regulations
5083	Farm and Garden Machinery	inorganics	Discharge to POTW	NA
191	General Farm, Primarily Crop	fertilizers, Pesticides	Maintain good erosion control practices and minimize the use of chemicals	NA
2711	Newspapers Publishing and Printing	Inorganics, VOCs, Semi volatiles	Recycle chemicals where possible. Discharge to POTW	40 CFR 459 and State or federal Storm water pollution prevention regulations
2048	Prepared Feeds For Animals and Fowls	Sanitary, Nitrates, phosphorous and pesticides	Maintain animal feeding areas and feed storage areas to minimize contact with storm water. Collect and treat process wastes.	40 CFR 412 and State or federal Storm water pollution prevention regulations

## Recommended Water Quality Protection Measures

SIC	SIC Source	Contaminant Source	Water Quality Protection Measure	Regulatory Authority
4953	Refuse Systems	ALL	Store wastes properly in order to minimize contact with storm water.	Maintain the lagoon or storage vessel properly. Control storm water run on and runoff to minimize contamination of storm water
7699	Repair Services, Nec	inorganics	Discharge to POTW	NA
2674	Uncoated Paper and Multiwall Bags	Inorganics, VOCs	Collect process wastewater and treat prior to discharge as necessary. Minimize outdoor storage	40 CFR 430 and State or federal Storm water pollution prevention regulations

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## **Assessment Analysis:**

The Assessment Analysis section displays the numbers assigned to each contaminant of concern category for each question in the susceptibility analysis.

This analysis is based on a decision tree framework consisting of a series of yes/no questions. These questions consider the proximity of contaminant sources to the water supply intake, the type of contaminant, and the application of pollution prevention or water quality protection practices to sources of contamination. As the evaluator moves through the analytical framework, susceptibility points are accumulated based on the presence of contaminant sources in the assessment area.

After all the questions have been answered, the SLS is calculated for each contaminant of concern category. The SLS is determined by counting the number of contamination risk factors found to occur in the delineated assessment area and applying a multiplier to this number. Because the number of contaminant category risk factors is not equal, the multiplier is used to establish a common scale for the SLS of each contaminant category.

# Assessment Analysis

Public Water Supply: **LEAVENWORTH WATER DEPARTMENT**  
Assessment Area: **342**

## Surface Water Single Well Analysis

**A** – Microbiological    **B** – Inorganic Compounds

**B1** – Eutrophication – Phosphorous

**B2** – Sedimentation    **C** – Synthetic Organic Compounds

**C\*** – Pesticides        **D** – Volatile Organic Compounds

No.	Question	Response	A	B	B1	B2	C	C*	D
1	Is the intake located at a treatment plant?	Yes	0	0	0	0	0	0	0
2	Is there an open channel conveyance from the intake to the treatment plant?	No	0	0	0	0	0	0	0
3	Does a PWS own or control the conveyance right-of-way?	Yes	0	0	0	0	0	0	0
4	Does a PWS own or control the area within 1/4 mile of intake?	No	1	1	0	0	1	1	1
5	Is the area within 1/4 mile of the intake entirely native grass?	No	1	1	0	0	1	1	1
6	Is transportation infrastructure in close proximity to the intake?	Yes	0	1	0	0	1	1	1
7	Are there water quality protection plans for the transportation infrastructure?	No	0	1	0	0	1	1	1
8	Are any commercial, industrial, or urban areas present?	Yes	1	1	0	0	1	1	1
9	Does each industrial/commercial site and urban area have a water quality protection plan in place?	No	1	1	0	0	1	1	1
10	Is riparian area vegetated?	No	1	1	0	0	0	1	0
11	Has riparian area been farmed up to the stream/riverbank?	No	0	0	0	0	0	0	0
12	Is there a lack of native grass or trees?	No	0	0	0	0	0	1	0
13	Is livestock use present in riparian area?	No	0	0	0	0	0	0	0
14	Are any confined livestock production sites in riparian area?	No	0	0	0	0	0	0	0
15	Is each confinement area registered with KDHE?	Yes	0	0	0	0	0	0	0
16	Are any row crops (corn, milo, soybean) present?	No	0	0	0	0	0	0	0
17	Are water quality protection plans in use for each cropland?	Yes	0	0	0	0	0	0	0



No.	Question	Response	A	B	B1	B2	C	C*	D
18	Are any orchards present?	No	0	0	0	0	0	0	0
19	Are water quality protection plans in use for each orchard?	Yes	0	0	0	0	0	0	0
20	Is the intake a river intake?	Yes	1	1	0	1	1	1	1
21	Is the intake at a city-owned lake?	No	1	1	1	1	1	1	1
22	Is there water quality monitoring conducted at the river or lake?	Yes	0	0	0	0	0	0	0
23	Is TMDL needed for any of the rivers or lakes?	No	0	0	0	0	0	0	0
24	Are TMDL pollutants of concern reported by monitoring?	No	1	1	1	1	1	1	1
25	Are any point source discharges within 16 miles upstream of intake?	No	0	0	0	0	0	0	0
26	Is pretreatment required at any of the point sources?	No	0	0	0	0	0	0	0
27	Are all riparian buffers vegetated?	No	1	1	1	1	0	1	0
28	Are vegetated riparian buffer and a water quality protection plans in place?	Yes	0	0	0	0	0	0	0
29	Is there urbanized land within riparian buffer?	No	0	0	0	0	0	0	0
30	Is a NPDES stormwater permit required for the urbanized areas?	No	1	1	1	1	1	1	1
31	Are voluntary water quality protection plans in place for each urbanized area?	Yes	0	0	0	0	0	0	0
32	Is there industrial land use within riparian buffer?	No	0	0	0	0	0	0	0
33	Is NPDES stormwater permit required for industrial areas?	No	1	1	1	1	1	1	1
34	Are voluntary water quality protection plans in place for each industrial area?	Yes	0	0	0	0	0	0	0
35	Are there livestock present?	No	0	0	0	0	0	0	0
36	Is there livestock confinement present?	No	0	0	0	0	0	0	0
37	Is each confined livestock facility registered with KDHE?	Yes	0	0	0	0	0	0	0
38	Are any row crops (corn, milo, soybeans) present?	No	0	0	0	0	0	0	0
39	Are water quality protection plans in use for each row crop production?	Yes	0	0	0	0	0	0	0
40	Are any orchards present?	No	0	0	0	0	0	0	0
41	Are water quality protection plans in use for each orchard?	Yes	0	0	0	0	0	0	0
42	Is there any small grain (wheat, oats, barley) production?	No	0	0	0	0	0	0	0
43	Are water quality protection plans in use for each small grain production?	Yes	0	0	0	0	0	0	0
44	Are there unsewered developments (concentrations of lagoons or septic systems) present in Zone B?	No	0	0	0	0	0	0	0
45	Is a general watershed water quality protection plan in use?	No	1	1	1	1	1	1	1
46	Are any point source discharges within 16 miles upstream of intake?	No	1	1	1	0	1	0	1
47	Is pretreatment required at any of the point sources?	No	0	0	0	0	0	0	0

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## **Site Comments:**

The Site Comments section lists all the comments that were added for the potential sources of contamination found in the assessment area.

Local comments and feedback from people that are familiar with the assessment area is an important aspect of the assessment. The comments greatly improve the assessment by adding detail to the sites that can be referenced for more information.

This local information may include comments on potential contamination threats (or lack there of), local water quality protection initiatives, etc. Adding comments are optional and are mainly focused on sources in areas that could have the greatest impact on water supply if a spill or release occurred in the environment. It is left to the discretion of the PWS and/or source water assessment committee to add comments.

# Site Comments

Public Water Supply: **LEAVENWORTH WATER DEPARTMENT**  
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## Comments for Unregulated Sites

Did Not Receive Any Comments

## Comments for Regulated Confined Animal Feeding Operations Sites

Did Not Receive Any Comments

## Comments for Regulated Hazardous Waste Sites

Did Not Receive Any Comments

## Comments for Regulated Leaking Storage Tank Sites

Did Not Receive Any Comments

## Comments for Regulated Identified Contaminated Sites

Did Not Receive Any Comments

## Comments for Regulated Solid Waste Sites

Did Not Receive Any Comments

## Comments for Regulated Waste Water Sites

Did Not Receive Any Comments
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### **Added Site Comments:**

The Added Site Comments section lists the comments for why sites were added as a potential source of contamination found to the assessment area.

# Added Site Comments

Public Water Supply: **LEAVENWORTH WATER DEPARTMENT**  
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## Comments for Added Contaminant Sites

Added Contaminant Site Name	Site No.	Site Comments	Author
Did Not Receive Any Comments			

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## **Analysis Question Comments:**

The Analysis Question Comments section lists all the comments that were added during analysis portion of the assessment, in which a series of yes/no questions were asked.

Evaluators have the option to add comments to questions to clarify why a response was given or to give more details to a question. Local comments and feedback from people that are familiar with the assessment area is an important aspect of the assessment. The comments greatly improve the assessment by adding clarification and details that could not be identified with a simple yes or no response.

# Analysis Question Comments

Public Water Supply: **LEAVENWORTH WATER DEPARTMENT**  
Assessment Area: **342**

## Comments for Analysis Questions

Analysis Question	Question Comments	Author
Did Not Receive Any Comments		